AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A storage medium, comprising:

a metallic underlayer;

a ferroelectric data layer over said metallic underlayer, said ferroelectric data layer serving as a layer for storing information as polarized domains in said ferroelectric data layer; and

a layer over said ferroelectric data layer ~~directly contacting a top surface of said ferroelectric data layer, said layer over said ferroelectric data layer comprising silicon and~~ having a charge migration rate faster than a charge migration rate of said ferroelectric data layer~~, said charge migration time being less than 10^{-10} second~~.

2-5. (Canceled)

6. (Currently amended) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises a conducting layer and a thickness of said conducting layer is within a range of approximately 5 Å to approximately 25 Å.

7. (Original) The storage medium of claim 1, wherein said metallic underlayer comprises $SrRuO_3$.

8. (Original) The storage medium of claim 1, wherein said ferroelectric data layer comprises at least one of:

PZT ($Pb(Zr_x Ti_{1-x})O_3$);

SBT ($SrBi_2Ta_2O_9$);

$BaMgF_4$;

STN ($Sr_2(Ta_{1-x}Nb_x)_2O_7$); and

NFM (COVA).

9. (Currently amended) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises a conducting layer and a thickness of said conducting layer is approximately 15 Å.

10. (Withdrawn, Currently Amended) A memory apparatus, comprising

a support mechanism to support and move a ferroelectric storage medium, said ferroelectric storage medium comprising a metallic underlayer, a ferroelectric data layer over said metallic underlayer, and a ~~conducting~~ layer over said ferroelectric layer having a charge migration rate faster than a charge migration rate of said ferroelectric data layer, said ferroelectric data layer serving as a layer for storing information as polarized domains in said ferroelectric data layer.

11. (Withdrawn, Currently Amended) The memory apparatus of claim 10, further comprising:

a read/write head for accessing information stored in said ferroelectric storage medium and for writing information to be stored into said ferroelectric storage medium.

12. (Withdrawn) The memory apparatus of claim 11, wherein said read/write head includes an electrometric sensor for reading information from said ferroelectric storage medium.

13. (Withdrawn) The memory apparatus of claim 12, wherein said electrometric sensor comprises:

an open-gate finFET.

14. (Withdrawn) The memory apparatus of claim 12, wherein said electrometric sensor comprises a plurality of electrometric sensing elements,

said plurality of electrometric sensing elements arranged linearly in at least one dimension.

15. (Withdrawn) The memory apparatus of claim 14, wherein said plurality of electrometric sensing elements are arranged in an x-axis dimension and in a y-axis dimension.

16. (Currently amended) A method of manufacturing a storage medium, said method comprising:

applying a layer of ferroelectric material over a metallic underlayer, said ferroelectric data layer serving as a layer for storing information as polarized domains in said ferroelectric data layer; and

applying a layer of conducting material ~~comprising silicon~~ over said ferroelectric layer~~, a thickness of said conducting layer is within a range of approximately 5 Å to approximately 25 Å~~, wherein said ferroelectric data layer serves as a layer for storing information as polarized domains in said ferroelectric data layer.

17-18. (Canceled)

19. (Previously presented) The method of claim 16, wherein a thickness of said conducting layer is approximately 15 Å.

20. (Original) The method of claim 16, wherein said metallic underlayer comprises $SrRuO_3$.

21. (New) The storage medium of claim 1, wherein said polarized domains terminate at said top surface of said ferroelectric data layer.

22. (New) The storage medium of claim 1, wherein said polarized domains are oriented as being substantially normal to said top surface.

22. (New) The storage medium of claim 1, wherein said information is stored as bits of information, each bit comprising a polarized domain within said ferroelectric data layer that is terminated at said top surface as an area of bound charge on said top surface, said bound charge having one of a positive sign and a negative sign, depending upon an information content of said polarized domain.

23. (New) The storage medium of claim 1, wherein said layer over said ferroelectric data layer comprises silicon.

24. (New) The storage medium of claim 1, wherein said charge migration time in said layer over said ferroelectric data layer is less than 10^{-10} second.

25. (New) The storage medium of claim 1, wherein said layer over said ferroelectric data layer directly contacts a top surface of said ferroelectric data layer to protect against a surface depolarization of said polarized domains.